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ABSTRACT

This bibliography presents a collection of 87 references identified by the Center for Management Studies at the University of Georgia during research studies on planning, programing, and budgeting systems (PPBS). The study evolved from a local need for a unified bibliography with a focus on PPBS applications in education, and this document represents an initial effort to provide all researchers in the area of PPBS with a guide to the literature currently available in this field. (RA)

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EDUCATIONAL PLANNING PROGRAMMING

BUDGETING SYSTEMS

ANNOTATED BIBLIOGRAPHY

by

G. B. Kademani

Center for Management Systems
University of Georgia
Athens, Georgia

INTRODUCTION

This annotated bibliography is a collection of some 90 references identified during research studies on planning, programming and budgeting systems (PPBS). This study was conducted by the Center for Management Systems (CMS), University of Georgia. During research studies on PPBS, the Center referred to a number of bibliographies now available on PPBS. It was found that not a single bibliography focused on PPBS applications in any one area. The material was so scattered that an individual interested in PPBS applications in a specific area had to spend a great deal of time and effort to acquire material relevant to his area of interest. Since CMS receives frequent requests for material on PPBS educational applications, it was felt that preparation of a PPBS bibliography on education might meet the Center's immediate needs. The enclosed bibliography is a product of this effort and is presented as part of the Center's information dissemination program.

The Center for Management Systems, (CMS), is a service arm of the College of Business Administration at the University of Georgia. The basic objectives of CMS are instruction, service, and research. Field services are the core of the Center's operations. CMS instructs and advises in the application of advanced management and equipment techniques to specific problems in government, business, and education.

The annotated bibliography has been designed for those interested in techniques of comprehensive PPBS and in their application to educational systems. This type of approach is still new in educational systems. Nevertheless,

there are many who believe that the PPBS approach will yield efficient planning processes resulting in optimal benefits in terms of investment in education. This bibliography is not exhaustive. Given the time and budget constraints, it is rather difficult to acquire all published material on the subject; however, optimum efforts have been made to gather as much material as possible. Attention is focused on material published from 1960 to 1970.

This bibliography is only a beginning. CMS plans to compile similar publications in the future. If you need more information about CMS and/or this bibliography, do not hesitate to contact us.

Fred H. Wise
Director

EDUCATIONAL PLANNING PROGRAMMING BUDGETING SYSTEMS

ANNOTATED BIBLIOGRAPHY

Abt, C., "Design for an Elementary and Secondary Education Cost Effectiveness Model", Cambridge, Mass., Abt Associates, 1967.

Presents a model intended to predict the relative cost effectiveness of alternative educational improvement programs within the same school-community setting.

Adams, D., "Educational Planning", Syracuse, Syracuse University Press, 1964.

Collection of articles which critically analyse the process of educational planning from the underlying assumptions to the practical problems of implementation.

Benson, C. S., "A Possible Breakthrough in the Financing of Public Education", Paper presented at the symposium on Operations Analysis of Education, Washington, D.C., Nov. 19-22, 1967.

Proposes that schools should not be viewed as "Standardized - Opportunity - Systems" but as "Differentiated - Output - Accountability Systems". The components of the desired accountability system and the needed analytical studies to guide decision makers are identified. Suggestions concerning upgrading school performance are offered.

Benson, C. S., "Prospectives on the Economics of Education: Readings in School Finance and Business Management." Boston, Houghton Miffin Company, 1963.

Discusses various economic and social factors influencing the equality of education. The chapter on "the problems of productivity in education" presents a discussion of issues on performance budgeting, Electronic Data Processing and administrative organization problems.

Bereday, G., and Lauwery, J., "Educational Planning", New York, Harcourt, Brace, 1967.

A comprehensive review of the state of the art of educational planning in many countries from the standpoint of various approaches including cost - benefit approach and models.

Burkhead, J., "The Theory and Application of Program Budgeting to Education". (Proceedings of the Eighth National Conference on School Finance). Washington, D.C., The National Education Association of the United States, 1965.

Traces recent developments in program budgeting, provides conceptual framework, and suggests applications to public education. Argues that program budgeting should not be introduced as a control device but rather as a system for evaluation.

Burkehead, J., "Input and Output in Large City High Schools", Syracuse, Syracuse University Press, 1967.

Examines the allocation of resources within certain large school systems and their interrelationships to certain student outputs.

Bushnell, D. S., "An Education System for the 70's". Washington, Aerospace Education Foundation Conference, 1967.

Treats certain inadequacies of the U.S. educational system involving a lack of well-defined goals, and inadequate measuring procedures.

Case C. Marston, and Clark, S. C., "A Bibliographic Guide to Operations Analysis of Education". Washington, D.C., National Center for Education Statistics, DHEW, Division of Data Analysis and Dissemination, September 1967.

Contains reference to books and articles on operations analysis in education. Included in it are: systems analysis, PPBS, cost effectiveness, cost-benefit analysis.

Chambers, G. A., "The Concepts and Problems of Planning-Programming-Budgeting System", Journal on State School System, Vol. I, No. 4, Winter 1968.

Presents a general, nontechnical introduction to PPBS which includes history, concepts, and definitions. The potential benefits of PPBS to local school systems are explicated and the major problems of operationalizing PPBS are discussed.

Clark, Harold, Cost and Quality in Public Education (Syracuse: Syracuse University Press, 1963). 54 p.

A review of the cost-quality question in public education.

Clark, Stephen, Urban Education Systems Analysis (TN-24) (Washington: National Center for Educational Statistics, 1967). 16 p.

Analysis of urban educational systems decision making in many areas by use of a developed analytical model.

Combs, P.H., "Educational Planning - An Inventory of Major Research Needs". Paris, Institute for Educational Planning, 1965.

A review of 25 possible areas of research which seem particularly relevant for educational planning.

Dilley, F. B., "Program Budgeting in the University Setting". The Educational Record, Fall 1966, p. 474-489.

A dispassionate presentation of the advantages of and the difficulties encountered in application of program budgeting techniques. Emphasizes planning rather than budgeting.

Ducker, R., "An Analysis of Cost and Performance Factors in the Operation and Administration of Vocational Programs in Secondary Schools". American Institute for Research in Behavioral Sciences, 1967.

The study identifies the kinds of costs and related data that can be obtained to aid planning and evaluating vocational education.

Eash, M., "Is Systems Analysis for Supervisors?". Educational Leadership, February 1969, pp. 482-89.

An introduction to the concept of systems analysis in educational problem solving.

Edding, F., Methods of Analyzing Educational Outlay (New York: UNESCO Publications, 1966). 70 p.

A discussion of the use of certain economic analyses for long range planning.

Exton, E., "Word from Washington". The American School Board Journal, Vol. 153, Nos. 5 and 6, Vol. 154, Nos. 1 and 2, November and December 1966, and January and February 1967.

The articles discuss PPBS and its implications. Arguments by educators and politicians for and against the installation of PPBS in educational setting are presented.

Foster, C. W., "Annual Volume of Proceedings, Addresses and Research Papers of the Annual Meeting and Educational Exhibit of the Association of School Business Officials of the United States and Canada". October 14-19, 1967. Chicago, Ill., Association of School Business Officials, 1968.

A verbatim reporting of presentations made at the 53rd Annual Meeting of the Association of School Business Officials of the U.S.A. and Canada. Includes papers read on program budgeting and junior college business management.

Friedman, B. D. and others, "Program Oriented Information - A Management Systems Complex for State Education Agencies". Part I, Analysis and Proposals. Interim Report on a Collaborative Project "Tentative Guides for a State Educational Agency Fiscal, Personal and Program Information System". Baltimore, Maryland State Department of Education, 1966.

Presents the results of a project to conceive and establish an information system for financial, personnel and program accounting of state education agencies total internal operation.

Friedman, B. D. and others, "Program Oriented Information - A Management Systems Complex for State Education Agencies. Part II, Manual of Accounting and Related Financial Procedures". Chicago, Ill., Public Administrative Service, 1966.

It is a manual presenting the proposed accounting system for state agencies with a program oriented approach.

Furno, O. F., "Program Budgeting and School Quality", AEDS Monitor, Vol: 9, April 1967, p. 13-16.

Observes that program budgeting becomes significant when goals and objectives are clear. Stresses the paramount value of program budgeting in providing visibility to the programs designed to achieve the goals.

George Washington University, "Planning for Educational Development in a Planning, Programming, Budgeting System". Washington, National Education Association, 1968.

Provides a framework for the implementation of a PPB System in the public schools.

Graese, C. E. and others, "University Management - A Total Review". PMM & Co./Management Controls/April 1968.

Argues in favor of PPBS application to university management. Develops a hypothetical institution to demonstrate PPBS application process for colleges and universities. Identifies impact of Federal participation on institutional program planning in education. Suggests methods for management improvement in independent schools.

Hartley, H. J., "Economic Rationality in Urban School Planning - The Program Budget". Urban Education, Vol. 3, Number 1, p. 39-51, 1967.

Argues in favor of application of systems analysis methods to integrate differing values of educators into common objectives. Establishes criteria for successful use of program budgeting. Discusses use of program budgeting in urban school system.

Hartley, H. J., "PPBS - Current Research and Programmatic Implications for Collective Negotiations", A Paper Presented to the American Educational Research Association, Chicago, Ill., Feb. 1968.

Emphasizes PPBS objectives. Concludes that focus upon programs would allow teachers, board of education, administrators, and the general public to seek resources for needed programs rather than for selfish ends.

Hartley, H. J., "Educational Planning, Programming, Budgeting, A Systems Approach". Engelwood Cliffs, New Jersey, Prentice Hall Inc., 1968.

An introductory text for educators. It describes PPBS, systems analysis, PERT, and other management techniques in relatively non-technical language. Some of the specific subjects included are educational planning, systems analysis in education, program structure in local schools, recent projects in PPBS, and limitations of PPBS. Also provided are examples of operating program budgets, references flow charts, guides and a glossary.

Hatry, H., and Cotton, J., "Program Planning for State, County and City". Washington, George Washington University, 1967.

Presents an example of use of Delphi technique in planning the implementation of large scale educational innovations.

Helmer, O., "The Use of the Delphi Technique in Problems of Educational Innovations". The Rand Corporation, December, 1966.

Explicates the Delphi technique and identifies its role in PPBS.

Hinds, R. H., "Educational Program Planning and Related Techniques". Annotated Bibliography. Unpublished Report. Dade County Public Schools, Miami, Fla.

Contains 97 references relating to the problems and techniques of comprehensive program planning. Designed for educators who feel that systems analysis, cost benefit studies and mathematical models have some relevance in the planning process of a large school system.

Hirsch, W. Z., "Program Budgeting for Education". Los Angeles, California University, 1966.

Recommends application of program budgeting to education. An example of a national level program budget is presented with suggestions for obtaining more effective management of education.

Hirsch, W. Z., "Education in the Program Budget". Santa Monica, The Rand Corporation, 1965.

Presents an application of program budgeting to education, especially as seen by the Federal Government. Surveys the nature and scope of education and key education objectives and decisions in the U.S.A. Considers examples of how program budgeting can elucidate education decisions and examines arrangements for effective use of program budgeting.

Hirsch, Werner Z., "Planning Education Today for Tomorrow". Urban Affairs Quarterly 2, Sept., 1966.

Educational planners are currently unable to make decisions effectively about urban education. Various ways to alleviate this dilemma are offered including simulation techniques, cost analysis, etc.

Holister, Jr., R. G., "A Decision Making Budget". The Educational Record, 47:4, Fall 1966, 490-497.

The author provides a careful argument for using the budget as a means for making decisions rather than having decisions made by the budget. Emphasis is on a full examination of alternatives within budget preparation.

James, H. T., "The Impending Revolution in School Business Management". Paper Presented at the Association of School Business Officials, Houston, Texas, Oct. 1968.

Discusses the development and objectives of cost-benefit analysis, systems analysis and program planning and budgeting systems. The areas on which these management tools focus attention are idenfified.

James, H. T. and others, "The Schools and the Challenge of Innovation", New York, N.Y., Committe for Economic Development, 1969.

A collection of papers contributed by authors prominent in educational innovation and technology. The authors identify the major problems confronting the schools today and the significance of the new innovative developments in education. The papers may be broadly classified under the following four subtitles: (1) Improved use of school resources; (2) More effective evaluation and research; (3) The challenge of innovation to teachers; (4) The possibilities and costs of instructional systems.

Judy, R. W., "Simulation and Rational Resource Allocation in Universities". Toronto, Office of Institutional Research, University of Toronto, 1966.

Identifies the need for PPBS application to cost analysis in a university system. Sketches the structure of a system simulation model, illustrates how it could be used and discusses some problems of its design and operation.

Judy, R. W., "Using the C.A.M.P.U.S. Model". Toronto, Office of Institutional Research, University of Toronto, 1966.

Discusses the problems and limitations of C.A.M.P.U.S. Model in a university planning, programming, budgeting system.

Judy, R. W., "Sources of Numeric Parameter Values for C.A.M.P.U.S. Toronto, Office of Institutional Research, University of Toronto.

Discusses problems of determining numeric values of model parameters during the design stage of the C.A.M.P.U.S. Model. Argues that parameter development should rely on the estimation of past values, and forecasts of future values.

Katzenbach, E. L., "Planning Programming Budgeting Systems: PPBS and Education". Cambridge, Mass., New England School Development Council, 1968.

Discusses the salient features of PPBS. States that PPBS delineates program integration and highlights alternatives by aligning objectives and costs.

Kaufman, J. J. and other, "An Analysis of the Comparative Costs and Benefits of Vocational Versus Academic Education in Secondary Schools.

Preliminary Report, University Park, Pennsylvania, Institute for Research on Human Resources, 1966.

The first portion of the report is devoted to a theoretical discussion of public expenditures, cost effectiveness analysis and data needs. An empirical analysis of benefits and costs is presented in the second portion.

Kershaw, J. A. and McKean, R. N., Systems Analysis and Education (Santa Monica: RAND, 1959). 64 p.

An exploratory study conducted to determine the extent to which systematic quantitative analysis can contribute to educational decisions.

Kiser, C., Ed. and others, "Proceedings of the Annual Workshop for School Business Officials". Buffalo, Western New York School Study Council, 1969.

A collection of 5 papers on PPB System application to education and other related school management problems.

Knezevich, S. J., "The Systems Approach to School Administration: Some perceptions on the State of the Art in 1967. Papers Presented at the U.S. Office of Education Symposium on Operations Analysis of Education, Washington, D.C., Nov. 1967.

Conclude that the experts should work on clarification of some concepts of systems approach and PPBS. The improvements needed in education system to create readiness for the stimulate use of the systems approach are identified.

Kotz, A., Ed., "Occupational Education: Planning and Programming", Vol. I and II. Menlo Park, California, Stanford Research Institute, 1967.

The two volumes contain papers presented at the Airline House Conference on Vocational Education, Spring 1967. The papers deal with application of planning and programming techniques to vocational education. The format of the volumes includes topic introductions, recommendations and summaries.

Lave, R. E. and Kyle, D. W., "Application of Systems Analysis to Educational Planning". Comparative Education Review 12: February, 1968, pp. 39-56.

A discussion of the problems facing educational planners in an attempt to show that although the problems of educational planning are complex, they are amenable to analysis by existing quantitative methodologies.

McGivney, J. H., "PPBS: A More Rational Approach to Decision Making in Vocational Education". American Vocational Journal, Vol. 44, No. 5., May 1969, pp. 63-65.

Contains a brief history of PPBS and explicates the philosophy and major components of PPBS. The emphasis is on traditional budget, an evaluation checklist, and a benefit/cost exercise.

Meeth, L. R., "Functional Long Range Planning: Purpose and Process". Liberal Education 53: Oct., 1967, pp. 375-84.

An examination of the concept of long range planning particularly as it bears on the university.

Miller, D. R., "A School District Plan of Functional Organization". Burlingame, California, Operation PEP.

Discusses basic management problems concerning a school district plan. The plan reveals several management tools including program budgeting, which can be used to obtain integration of performance.

Miller, Donald, A Systems Approach for Solving Educational Problems (Burlingame, Calif.: Operation PEP, 1967). 40 p.

An examination of various aspects of the systems approach relevant to education: the systems concept, assumptions, limitations.

Mood, A., and Powers, R., "Cost Benefit Analysis of Education". Washington, National Center for Education Statistics, 1967.

A review of the difficulties and means for conducting cost-benefit analysis of education.

Morphet, E. and Ryan, C., Planning and Effecting Needed Changes in Education New York: Citation, 1967. 317 p.

A review of the benefits, problems, and needs of long range planning.

Mushkin, S. J., and Cleaveland, J. R., "Planning for Educational Development in a Planning, Programming, Budgeting System". Washington, D.C., National Education Association, 1968.

Discusses planning methods for educational development using a planning, programming, budgeting system. Argues in favor of application of PPBS to education as cost effectiveness analysis for learning.

Nelson, W. C., "PPB System for Educator"; Vol. IV: A Research Bibliography. Columbus, Ohio, The Center for Vocational and Technical Education, 1969.

Contains 700 references classified by topic and listed alphabetically within each classification.

Levin, Henry, Cost-Effectiveness Analysis and Educational Policy-Profusion, Confusion, Promise, (Stanford: School of Education, 1968). 13p.

A review of the promises of cost-effectiveness analysis with a case study.

Lindmann, E. L., Ed., "Approaches to Program Accounting for Public Schools". Presentations and Discussions of the National Conference on Program Accounting for Public Schools. Los Angeles, University of California, Center for the Study of Evaluation of Instructional Programs, 1968.

A collection of papers which describe six public school expenditure classification systems designed to facilitate program budgeting and cost analysis. Issues in the area of program accounting identified and discussed at the conference, are reviewed.

Lyons, Raymond F, Problems and Strategies of Educational Planning-Lessons from Latin America. New York: UNESCO Publications, 1965.

Summaries of a seminar which considered the role of educational planning as a means of advancing education and linking it more effectively to overall economic and social development.

Mansergh, G. G., Ed., "Curricular and Fiscal Planning with Planning, Programming Budgeting systems". Special monograph No. 2. Michigan, Metropolitan Detroit Bureau of School Studies, Inc., 1969.

Discusses a phased program of PPBS application to curricular - fiscal planning within education. Presents an outline of four basic approaches on which the program structure could be based.

Mason, T. A., "A Basis for Program Planning Higher Education". Society for College and University Planning Quarterly, I:3, Dec. 1967, p. 1-4.

Argues that the qualitative values of a college's "products" can not be measured, they must be judged. It concludes that the organized instructional program lends itself to quantitative description as the basis for estimating the resources required to support it.

McAbee, H. V., "The Oregon Planning Programming Budgeting Systems Institute". Final Report. Manmouth, Oregon State System of Higher Education, 1968.

The need for and potentials of the PPBS approach to budgeting are outlined, and a discussion of areas for further research, development and application is presented. A bibliography on PPBS is also included.

McCullough, J. D., "Cost Analysis for Planning, Programming, Budgeting Cost Benefit Studies". The Rand Corporation, Nov., 1966.

Discusses the role of cost analysis in cost/effectiveness studies. Education is used as an illustration.

O'Brien, Richard J., School Submodel for Large Urban Schools (TN-38) Washington: National Center for Educational Statistics, 1967. 18 p.

The objective of this paper is the specification of educational inputs, their interrelationships, and the presentation of the data in the form necessary for a later evaluation of costs and effectiveness.

Ohm, R. E., "Organizational Goals - A Systems Approach". A paper presented at the Annual National Conference of Professors of Educational Administration, Indiana University, Aug. 1966.

Reviews traditional and contemporary views on structuring organizational goals. Argues that distribution of goals should be related to differences in structure and output. Concludes that administrators should not view goals as "givens" but as the central ordering process of a complex system.

Payzant, T., "Approaches to the Analysis of School Costs, An Introduction". Cambridge, Mass., New England School Department Council, 1967.

A review and discussion of major components of cost accounting, cost effectiveness, cost benefit analysis, systems analysis and program budgeting. Concludes that, given necessary modifications, these tools are found to have greater potential in applications to education.

Perkins, J. A. Jr., "PPBS and MIS: Their Role in Managing Education". (Paper presented at the National School Finance Conference, March 1969)

Requirements and objectives of PPBS and MIS are identified. MIS support to fulfill PPBS objectives is stressed. Their application to educational administration is outlined.

Pfeiffer, J., "Decision Making in Action. Chapter 2, New Look at Education: Systems Analysis in Our Schools and Colleges". New York, The Odyssey Press Inc., 1968.

Discusses the need for using systems approach and program budgeting techniques for solving management problems in our schools and colleges.

Piele, P., "Planning Systems in Education", Eugene, Center for Advanced Study of Educational Administration, Oregon University, 1969.

Reviews 16 selected documents dealing with the application of several kinds of planning systems to educational programs. Particular emphasis is on PPBS and PERT.

Piele, P. K., and Bunting, D. G., "Program Budgeting and the School Administrator: A Review of Dissertations and Annotated Bibliography. Review Series, Number Two." Eugene, Oregon University, 1969.

Reviews the research findings of recent doctoral dissertations on program budgeting in education and describes the practical application of these findings for school administration.

Robinson, C. L., and Barron, J. G., "Program - Based Resource Allocation Models at the University of Toronto". Toronto, Office of Institutional Research, University of Toronto, 1968.

Discusses the development and application of program-based resource allocation models at the University of Toronto. Concludes that, with the support of CAMPUS (Comprehensive Analytical Method for Planning in the University Sphere), program budgeting becomes a flexible and dynamic planning mechanism.

Robinson, C. L., and Levine, J. B., "Analysis of Budgetary and Staffing Information in the University of Toronto". Toronto, Office of Institutional Research, University of Toronto, 1966.

Describes an analytical study of the financial and staffing information of the University of Toronto. The objective is to produce data for developing the CAMPUS Model and to provide reports needed for central and faculty administrations.

Robinson, D. D., W. Lynn Fluckiger, "Computer Assisted Planning for Colleges and Universities". Management Controls, XV: 4, April 1968, p. 77-85.

Stresses the growth aspects of higher education and the burdens the growth places on careful placement of scarce resources. Recommendations include the application of PPBS and computer utilization.

Smith, C. R., and Connolly, J., "Proceedings of National Seminar on Program Planning, Budgeting, and Evaluation, Vocational Technical Education." Final Report. College Park, Maryland University, December 1967.

A summary of presentations made on budgets, evaluation, program planning, its objectives, policies and procedures.

Smith, L. S., "The Allocation of Financial Resources in Higher Education". A Paper Presented for Education 925.35, at the Ohio State University, Columbus, Autumn Quarter, 1967.

Identifies basic concepts involving allocation of university's limited financial resources. Indicates that program budgeting technique is a systematic approach to budgeting.

Smith, L. S., "Computer Simulation Models of Economic Systems in Higher Education". Columbus, Ohio State University, 1969.

The design of computer simulation models and the development of models to depict an economic system in a university department are discussed. The models designed can be used to establish costs for programs in a department is part of a program budget analysis.

Takasiki, R. S., "Translate Programs into Dollars with Federally-Tested Budget". College and University Business, 42:5, May 1967, p. 78-80.

The author looks at the federal budget process as a means for academic institutions to stress outputs rather than inputs by using program budgeting.

Terry, J. N., "Program Budgeting and Other Newer Management Tools in Higher Education: A Description and Annotated Bibliography; occasional paper no. 6.". Seattle, Washington, University of Washington, Center for the Development of Community College Education, 1968.

The first part provides a brief description of four management techniques: 1. PPBS; 2. Systems Analysis; 3. CPM and PERT; 4. Delphi Technique. The second part is an annotated bibliography on the decision making process. Includes references to bibliographies on PPBS.

Tough, C., and James Skarp, "A Systems Approach to Budgeting can Open Communication Bottlenecks". College and University Business, May 1968, p. 68-72.

The authors relate their experience at the University of California, Irvine. Develop a systems approach to planning which united capital and operating budgets.

Vincent, H., "Program Budgeting for Education - State and Local Governments". National Center for Educational Statistics, DHEW.

Presents information concerning the availability of financial information which pertains to allocation of educational resources and the effectiveness of this allocation.

Warmbrod, J. R., "Review and Synthesis of Research on the Economics of Vocational Technical Education". Columbus, Ohio, The Center for Vocational and Technical Education, 1968.

This is a review of economic studies dealing with vocational education and manpower training programs. The other sections included in the publication are: 1. the economies of education; 2. benefit-cost analysis.

Watson, Cicely, Ed., Educational Planning: Papers of the Invitational Conference, (Toronto: Ontario-Board of Education, 1967). 71 p.

The major papers delivered at the conference involving the state of the art of educational planning, training needs, systems analysis. Avail.: ERIC: ED016303.

Williams, H., "Planning for Effective Resource Allocation in Universities". Washington, D.C., American Council on Education, 1966.

Attempts to relate program budgeting to university setting. Emphasis is on the fact that program budgeting is an approach, not a formula.

Witmer, D. R., "Unit Cost Studies", Wisconsin Board of Regents of State Universities, 1967.

Reviews the literature on unit cost studies. Presents an outline of a unit cost study made on the Wisconsin State Universities. Its use in program planning and budget preparation is cited.

"The Feasibility of Cost/Effectiveness Analysis for Title 1, Public Law 89-10." Final Report. Chicago, Ill., Technomics Inc., Jan. 1966.

Reports the results of an investigation on the feasibility of cost effectiveness technology as it may be applied to decisions about money spent on education. The prerequisites to be met for evaluation efforts to be successful are listed.

"Development of an Operational Model for the Application of Planning - Programming - Budgeting Systems in Local School Districts. Program Budgeting note 1, Introduction to Program Budgeting." Buffalo, Western New York School Study Council, 1968.

Describes the conditions that led to the development of PPBS. Identifies potential of PPBS and its possible application to school management.

"Development of an Operational Model for the Application of Planning - Programming - Budgeting Systems in Local School Districts. Program Budgeting Note 2., Program Budgeting in the Federal Government. Buffalo, Western New York School Study Council, 1969.

Reviews the Federal Bureau of the Budget Guidelines concerning PPBS implementation in Federal Agencies. Presents an evaluation of the contributions of PPBS made by administrators of a few federal agencies. The study thereby demonstrates the feasibility of PPBS application to educational programs administration.

"Development of an Operational Model for the Application of Planning - Programming - Budgeting Systems in Local School Districts. Program Budgeting Note 3, Cost-Effectiveness Analysis: What is it?" Buffalo, Western New York School Study Council, 1969.

Discusses an analytical process to identify elements of a cost-effectiveness analysis. States that the process is designed to support judgement and intuition rather than to replace them.

"Conceptual Design for a Planning, Programming, Budgeting System for California School Districts." Preliminary. Sacramento, California State Department of Education, 1969.

Presents a PPBS specifically designed to assist California School Districts achieve a more effective and efficient utilization of available resources.